## STANFORD UNIVERSITY MEDICAL CENTER PALO ALTO, CALIFORNIA

DEPARTMENT OF GENETICS School of Medicine

DAvenport 1-1200 Cables STANMED

November 2, 1966

Dr. H. J. Muller Indiana University

Dear Jo:

I very much appreciated your letter, and your sending the draft type-script of Gour Chicago talk. I will certainly read it carefully, and mind your cautions, before writing about it.

I think I can sympathize with the frustrations of the discrepancy between your nervous and physical energies. You know best what compromises you have to make. The paradox is that it must be just your friends and admirers eager for some small contact with you who, in aggregate, must make the largest demands! Anyhow, you know where I fall in outlook, and I surely don't want to be any burden on you.

In the last five years or so, I have rather drastically changed my outlook on science. The system is an efficient one for maintaining the essential integrity and discipline of our approximations to reality, and I don't see much about the research-system that I would want to change. But while one is caught up in the process of discovery, one tends to overlook that the only realities for a human being are in his communications with other men. My column-writing is a very satisfying vehicle for wax's reaching these motives, and I am glad to have the chance to perfect the craftsmanship by experience. Your general comments are very welcome, and so would be any more concrete ones you might care to make at any time. You could not have made a more flattering allusion than your reference to Haldane, whose flair for commentary made an overt model for what I have been after too. Then, besides yourself and perhaps Huxley, who else is usefully putting himself out this way? Well, Medawar and lately Crick are dabbling too.

You made some brief reference to neurobiology and computer intelligence. Shooter and Varon are doing some interesting things on protein-chemistry of the brain and dispersed-neuron cultures and reaggregations, as the line of this department in that direction. I have been dabbling myself (together with Ed Feigenbaum of the Computer Science Dept.) trying to teach a computer to think about organic chemistry. (My own first pass at genetics couldn't find a good point of departure; chemistry is fare easier.) As you might expect, the results are paradoxical—the hard-looking things are easy, and vice versa. But we do have some fairly clever programs by now. One has to put as much effort into teaching them as any obstreperous undergraduates.

I would always welcome hearing from you.

Sincerely,

Joshua Lederberg